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NICKEL IN SEPTEMBER 1999

In September, reported domestic nickel consumption on a daily average basis was 12% greater than that of August, according to the U.S. Geological Survey. Average daily consumption by the stainless steel industry in September was 34% higher than that of the August average of 85 metric tons (t). The increase for stainless steel was partially offset by decreases in three other end use categories. Daily consumption by alloy steel producers—a considerably smaller tonnage than that of stainless steel—decreased by 16%. Sales to plating companies averaged 36 metric tons per day (t/d), down 11% from the August sales figure of 41 t/d. Consumption of elemental nickel to make nickel-base corrosion- resistant alloys declined by 10%. Percentages reported in this paragraph may not be verifiable owing to concealment of individual company proprietary data.

On September 30, U.S. consumer stocks of cathode, pellets, briquets, and powder totaled 3,010 t—slightly less than the 3,040 t for August 31, but 52% less than the 1998 high of 6,330 t reached on December 31, 1998. Stocks in London Metal Exchange (LME) warehouses worldwide decreased by 3% during September to 49,536 t. LME stocks at yearend 1998 were 65,964 t. Preliminary data collected by the International Nickel Study Group indicated that, at the end of August, world nickel producers (excluding those in Austria, China, the former Yugoslavia, and the Ural area of Russia) had approximately 95,900 t of Ni in primary products in stock, of which 69,000 t were Class I materials. Class I materials are refined products with a nickel content of 99% or greater (electrolytic cathode, pellets, briquets, rondelles, powder, etc.). Class II materials include ferronickel, nickel oxide sinter, and East Asian utility nickel—products with a nickel content less than 99%.

The United States imported 92,000 t of primary nickel during the first 8 months of 1999, 11% less than the 103,000 t for the corresponding period of 1998. Class I materials accounted for 85% of total primary imports received during the first 8 months of 1999. Trade data for September 1999 will appear in a subsequent issue.

Australian laterite projects—An update [Part 2 of 2]

(Part 1 appeared in the August issue.)

Anaconda and Preston to jointly expand Bulong's production capacity.—In late October, Anaconda Nickel Limited entered into an agreement with Preston Resources Limited to review and manage Preston's Bulong laterite operation in Western Australia (Mining Journal, 1999a). The mines and processing plant partially encircle the historic gold mining town of Bulong, 30 kilometers east of Kalgoorlie. The ore occurs at depths of 5 to 40 meters over a strike length of some 20 kilometers (Western Australian Department of Resources Development, 1999). According to the Western Australian Government, the group of more than 40 ore bodies contains 140 million t of ore grading 1% nickel and 0.1% cobalt.

Anaconda is considering helping Preston expand the capacity of Bulong from its current 9,000 t per year of nickel to 40,000 t per year. The expansion feasibility study is scheduled to be completed by August 2001. Bulong was commissioned in December 1998 and produced its first LME-grade metal in March 1999. The deposit is currently being mined at a rate of 500,000 t of ore per year. Preston expects marketable production for the fiscal year ending June 30, 2000, to be about 5,440 t of nickel and 340 t of cobalt metal (Platt's Metals Week, 1999). Like Anaconda's much larger Murrin Murrin complex, Bulong uses pressure acid leach (PAL) technology to recover the nickel. (See Nickel in March 1999.) Also, like Murrin Murrin, Bulong experienced start-up problems and delays because the technology was new (Mining Journal, 1999b).

Anaconda and Centaur plan to jointly expand the Cawse operation.—On November 18, Anaconda announced that it had formed a strategic alliance with Centaur Mining and Exploration Limited to expand Centaur's Cawse operation (Anaconda Nickel Limited, 1999a).

The Cawse complex is in the Eastern Goldfields region of Western Australia, 60 kilometers northwest of Kalgoorlie. The nickel occurs with cobalt in limonite clays associated with the Norseman-Wiluna greenstone belt. The mineralization extends

from the surface to a maximum depth of 60 meters. The complex produced its first cobalt sulfide concentrate, assaying 40% Co, on December 25, 1998. The first nickel cathode was made on January 20, 1999 (Western Australian Department of Resources Development, 1999).

Anaconda and Centaur are proposing to raise Cawse's production capacity from 9,000 t per year of cathode to more than 50,000 t per year if the expansion feasibility study is positive. The two companies expect to complete the study by mid-2001. Production of cobalt as cobalt sulfide could be raised from 1,300 t per year to more than 2,500 t per year. Anaconda would be responsible for the financing, construction, commissioning, and operation of the expanded plant. Anaconda can earn as much as a 60% interest in Cawse. Under the new agreement, Anaconda's equity would be linked to the capacity of the expanded facility.

Anaconda plans to commission its Mount Margaret project in 2001-02.—In August 1999, Anaconda had five drill rigs operating in the Mount Margaret area, 100 kilometers northeast of Murrin Murrin (Anaconda Nickel Limited, 1999b). Infill drilling at the Marshall Pool tenements has identified sizable resources reportedly grading 1.29% to 1.65% Ni, with cobalt values ranging from 0.068% to 0.162% Co. Anaconda has drilled more than 1,000 holes at a second location called Lawlers. According to company officials, preliminary data from the Lawlers drilling suggest a 9-meter-thick resource of 125 to 200 million t, above a cut-off of 0.5% nickel. The Goldfields Gas Transmission pipeline, which brings Northwest Shelf natural gas to Leinster, Kambalda and Kalgoorlie, passes through the area. The Mount Margaret properties could be developed as early as 2002 if nickel prices do not deteriorate.

Comet Resources raises the design capacity of its proposed Ravensthorpe project.—Comet Resources NL completed its feasibility study of the Ravensthorpe nickel project in late 1998. The study was conducted by Kaiser Engineers Pty. Ltd. of Perth, Western Australia, and H.A. Simons Ltd. of Vancouver, British Columbia. Multiplex Constructions Pty. Limited is responsible for the engineering, construction, and commissioning of the project. The property is 35 kilometers east of Ravensthorpe, close to the Indian Ocean, and only 150 kilometers from the port of Esperance. The original plan called for the Ravensthorpe complex to have a design capacity of 22,000 t per year of nickel metal and 1,400 t per year of cobalt sulfide. However, on September 14, Comet announced that the design capacity of the complex would be raised to 35,000 t per year of nickel. Environmental regulators had already approved a project of this size.

According to Comet officials, the new open pit mine has 51.9 million t of reserves and a projected life of 15 years. The project's three deposits reportedly have a combined resource of 152 million t grading 0.9% nickel and 0.04% cobalt (Western Australian Department of Resources Development, 1999). To date, Comet has focused on the Halleys deposit, which accounts for almost all 52 million tons of reported reserves. The deposits are close to the surface, forming a ridge above the surrounding countryside. Stripping ratios are less than 0.6:1. Like Marlborough, the ore would be beneficiated before being fed into an autoclave. (See Nickel in August 1998.) The beneficiated ore would have a nickel content of 2.0%.

In mid-November, QNI Pty. Limited announced that it had agreed to help Comet develop Ravensthorpe (Mining Journal, 1999c). QNI is a wholly owned subsidiary of London-based Billiton plc, a rapidly expanding company which has recently become one of the world's major nickel producers. The proposed Ravensthorpe PAL plant would ship an intermediate nickel and cobalt concentrate to QNI's existing Yabulu plant in Queensland.

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TABLE 1
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE 1/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
1998:					
September	6,490	924	455	7,870	76,800
October	6,850	999	553	8,400	85,200
November	5,910	1,050	490	7,450	92,700
December	6,000	1,140	650	7,790	100,000
January-December	81,400	13,700	5,290	100,000	XX
1999:					
January	6,310	988	399	7,700	7,700
February	6,540	824	669	8,030	15,700
March	7,820	487	817	9,130	24,900
April	7,670	845	602	9,120	34,000
May	8,040	1,150	695	9,890	43,900
June	8,280	1,200	695	10,200	54,000
July	7,550	1,160	481	9,180	63,200
August	7,110 r/	1,000	349	8,460 r/	71,700
September:					
Steel:					
Stainless and heat resisting	1,800	1,480	W	3,280	33,000
Alloy (excludes stainless)	344	W	W	344	4,870
Superalloys	1,410	--	16	1,420	12,600
Copper-nickel alloys	W	W	--	W	W
Electrical, magnetic, and expansion alloys	45	--	--	45	332
Other nickel & nickel alloys	W	--	W	W	9,280
Cast iron	--	--	W	W	W
Electroplating (sales to platers)	1,090	--	--	1,090	10,400
Chemical and chemical uses	W	--	--	W	W
Other uses	2,640	8	305	2,950	10,300
Total reported	7,330 2/	1,490	321	9,140	80,800
Total all companies (calc) 3/	XX	XX	XX	13,500	119,000
1999: January-September	66,600	9,140	5,030	80,800	XX
1998: January-September	62,700	10,500	3,600	76,800	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Of consumption, 6,030 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

3/ Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (67.6852%) to apparent primary consumption for 1997.

TABLE 2
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS,
BY FORM AND USE 1/ 2/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
1998:				
September	3,000	780	392	4,180
October	3,170	726	452	4,350
November	3,090	471	415	3,970
December	6,330	877	1,420	8,620
1999:				
January	5,770	308	1,300	7,370
February	4,410	112	989	5,510
March	3,580	354	431	4,360
April	3,110	97	364	3,570
May	3,600	145	351	4,100
June	3,830	110	312	4,250
July	3,550 r/	170	263 r/	3,980 r/
August	3,040	315 r/	269 r/	3,620 r/
September:				
Steel (stainless, heat resisting and alloy)	1,640	202	(3/)	1,840
Nonferrous alloys 4/	1,240	--	(3/)	1,240
Foundry (cast irons)	(3/)	--	(3/)	(3/)
Chemical (catalysts, ceramics, plating salts, etc.) and unspecified uses	135	--	451	586
Total	3,010	202	451	3,660

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks held by companies that consume nickel in more than one end use category are credited to the major category. Stocks are subject to revisions owing to inventory adjustments.

3/ Included in the "Chemical and unspecified uses" category.

4/ Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE 1/

(Metric tons, nickel content)

	Consumption			Stocks		
Period	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap
1998:						
September	3,470	822	4,300	4,320	157	4,470
October	3,150	737	3,890	4,600	145	4,740
November	3,070	783	3,850	4,850	156	5,000
December	4,290	623	4,910	4,480	161	4,640
January-December	47,300	9,640	56,900	XX	XX	XX
1999:						
January	4,220	797	5,010	4,060	153	4,210
February	3,840	748	4,590	4,260	156	4,420
March	3,900	850	4,750	4,260	159	4,420
April	4,020	963	4,980	3,680	160	3,840
May	4,380	700	5,080	3,230	171	3,400
June	4,620	1,320	5,940	2,820	217	3,030
July	3,790	1,090	4,880	2,620	174	2,790
August	4,150 r/	1,090	5,240 r/	2,570 r/	167	2,740
September	4,920	1,020	5,940	2,870	157	3,030
1999: January-September	37,800	8,580	46,400	XX	XX	XX
1998: January-September	36,700	7,500	44,200	XX	XX	XX

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

3/ Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
1998:										
August	7,550	734	708	235	325	186	188	9,930	110,000	73
September	9,560	577	1,330	401	271	266	258	12,700	123,000	66
October	11,100	1,100	741	495	273	213	271	14,200	137,000	50
November	7,850 5/	616	999	433	300	174	228	10,600	147,000	121
December	6,710	774	296	500	315	169	321	9,080	156,000	84
January-December	120,000	9,850	12,800	2,140	4,210	4,290	3,140	156,000	XX	819
1999:										
January	9,930	697	1,230	185	281	160	181	12,700	12,700	83
February	6,540	783	1,440	302	265	211	240	9,780	22,400	23
March	10,700	926	836	366	394	178	235	13,600	36,100	78
April	6,230	769	1,150	306	414	181	302	9,350	45,400	103
May	9,940	575	860	231	428	303	190	12,500	57,900	80
June	13,000	1,080	1,550	399	260	415	241	16,900	74,800	58
July	5,910	939	1,730	--	330	243	232	9,380	84,200	105
August:										
Australia	1,100	10	--	9	--	--	--	1,120	9,830	--
Brazil	1,220	--	--	--	--	--	--	1,220	3,680	--
Canada	3,370	459	--	276	92	93	--	4,290	39,200	--
Colombia	--	--	189	--	--	--	--	189	1,170	--
Dominican Republic	--	--	716	--	--	--	--	716	4,560	--
Finland	278	50	--	--	--	--	34	362	3,270	--
France	98	--	400	--	83	--	12	593	2,780	(6/)
Germany	--	(6/)	1	--	59	--	34	94	471	72
Japan	--	1	--	--	3	--	13	17	626	24
Mexico	--	--	--	--	20	161	1	182	945	12
New Caledonia	--	--	--	--	--	--	--	--	3,470	--
Norway	2,810	--	--	--	--	--	--	2,810	12,900	--
Russia	216	156	--	--	--	--	--	372	10,100	--
South Africa	100	--	--	--	--	--	--	100	143	--
United Kingdom	--	79	--	--	47	--	3	129	1,670	(6/)
Zimbabwe	77	--	--	--	--	--	--	77	753	--
Other	--	35	--	--	12	9	64	120	1,200	3
Total	9,280	790	1,310	285	316	263	161	12,400	96,600	110
1999: January-August	71,500	6,560	10,100	2,070	2,690	1,950	1,780	96,600	XX	640
1998: January-August	84,800	6,780	9,480	307	3,060	3,470	2,060	110,000	XX	500

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ All or part of these data have been referred to the Bureau of the Census for verification.

6/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
U.S. EXPORTS OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date	Wrought nickel
1998:										
August	69	61	--	116	1,080	2,440	356	4,120	29,000	65
September	104	85	1	111	971	1,270	336	2,870	31,900	80
October	142	95	--	138	1,060	1,940	235	3,610	35,500	127
November	38	108	1	158	1,300	1,040	156	2,800	38,300	39
December	217	90	1	96	1,120	3,340	367	5,230	43,500	77
' January-December	1,210	1,080	918	1,230	12,700	22,400	4,010	43,500	XX	991
1999:										
January	93	60	--	100	615	787	337	1,990	1,990	149
February	11	93	3	168	812	1,010	337	2,440	4,430	59
March	36	90	1	105	958	1,850	460	3,500	7,930	63
April	15	69	1	161	989	2,070	334	3,640	11,600	77
May	78	44	--	102	920	1,600	523	3,270	14,800	121
June	54	85	2	94	979	1,950	200	3,360	18,200	59
July	65	76	6	105	725	1,310	363	2,650	20,800	52
August:										
Australia	--	(4/)	--	--	--	--	--	(4/)	19	16
Belgium	--	--	--	--	19	--	--	19	419	1
Canada	--	23	--	180	727	135	10	1,080	8,360	14
Germany	--	11	--	(4/)	--	11	9	31	442	2
India	--	--	--	--	--	7	(4/)	7	152	(4/)
Italy	--	3	--	--	--	--	--	3	21	(4/)
Japan	--	8	--	--	128	45	11	192	1,540	--
Korea, Republic of	--	2	--	1	--	729	11	743	4,730	1
Mexico	138	24	--	--	2	--	74	238	881	10
Netherlands	--	(4/)	--	--	9	6	7	22	188	(4/)
South Africa	--	(4/)	--	--	13	138	1	152	784	--
Spain	--	--	--	--	--	--	--	--	2,000	--
Sweden	--	--	--	--	--	--	--	--	121	1
Taiwan	--	1	--	--	--	192	20	213	2,350	--
United Kingdom	--	3	9	(4/)	23	--	(4/)	35	279	7
Other	4	7	--	(4/)	24	21	113	169	1,450	17
Total	142	82	9	181	945	1,280	256	2,900	23,700	69
1999: January-August	493	599	21	1,020	6,940	11,900	2,810	23,700	XX	649
1998: January-August	705	696	915	727	8,250	14,800	2,920	29,000	XX	668

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
1998:									
August	169	139	279	168	1	69	25	851	8,330
September	230	129	284	124	9	84	49	910	9,240
October	207	121	228	117	--	130	41	844	10,100
November	228	130	331	185	--	150	41	1,070	11,100
December	130	276	261	189	--	112	16	984	12,100
January-December	2,250	2,140	3,710	1,860	19	1,600	559	12,100	XX
1999:									
January	239	188	277	166	--	120	38	1,030	1,030
February	198	253	339	172	1	37	48	1,050	2,080
March	291	311	427	200	2	135	79	1,440	3,520
April	265	222	344	137	2	33	72	1,070	4,590
May	248	174	348	242	(2/)	244	75	1,330	5,920
June	248	162	373	298	1	74	52	1,210	7,130
July	209	180	341	201	1	94	63	1,090	8,220
August:									
Australia	67	--	--	--	--	--	--	67	642
Belgium	10	--	--	--	--	--	--	10	112
Canada	17	--	(2/)	--	--	10	2	29	288
France	--	1	135	41	--	--	(2/)	177	938
Germany	1	78	91	217	--	15	2	404	3,220
Italy	--	19	5	--	--	5	1	29	555
Japan	--	--	1	1	--	17	9	28	343
Mexico	--	--	2	--	--	--	--	2	34
Netherlands	--	--	--	--	--	7	(2/)	7	155
South Africa	19	--	--	--	--	--	--	19	271
Sweden	--	--	86	9	--	1	--	95	1,310
United Kingdom	57	26	2	(2/)	--	10	1	96	1,030
Other	1	--	10	--	(2/)	(2/)	31	42	330
Total	172	124	332	268	(2/)	65	46	1,010	9,220
1999: January-August	1,870	1,610	2,780	1,680	7	800	472	9,220	XX
1998: January-August	1,450	1,480	2,600	1,240	10	1,120	412	8,330	XX

XX Not applicable.
1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
1998:									
August	462	356	143	898	11	77	260	2,210	17,900
September	492	301	196	804	4	158	210	2,170	20,100
October	559	373	167	732	6	134	232	2,210	22,300
November	460	313	140	661	7	61	150	1,790	24,100
December	577	456	171	472	1	56	218	1,950	26,000
January-December	5,970	4,150	2,500	9,100	94	1,160	3,040	26,000	XX
1999:									
January	573	264	170	575	14	104	655	2,360	2,360
February	1,090	370	129	723	6	103	263	2,680	5,040
March	896	496	163	688	7	48	206	2,500	7,540
April	910	349	168	688	72	72	266	2,530	10,100
May	545	396	181	614	3	63	193	2,000	12,100
June	682	363	225	620	5	63	272	2,230	14,300
July	702	330	192	486	4	46	483	2,240	16,500
August:									
Australia	--	--	7	96	--	(2/)	(2/)	103	245
Belgium	--	5	5	41	--	(2/)	(2/)	51	390
Canada	11	15	40	52	1	19	28	166	1,560
France	424	18	--	6	(2/)	--	23	471	5,530
Germany	1	30	1	40	--	1	1	74	609
India	--	--	(2/)	1	1	(2/)	--	2	12
Ireland	--	--	154	(2/)	--	(2/)	(2/)	154	327
Italy	19	2	--	37	--	1	1	60	706
Japan	--	12	8	80	--	2	2	104	1,710
Korea, Republic of	1	7	3	31	--	2	6	50	602
Mexico	6	1	55	3	(2/)	9	32	106	862
Netherlands	--	--	3	1	--	(2/)	105	109	581
Singapore	3	(2/)	(2/)	2	--	--	(2/)	5	224
Spain	--	(2/)	(2/)	--	--	(2/)	(2/)	1	22
Sweden	--	--	1	7	3	(2/)	--	11	85
Switzerland	(2/)	6	--	24	--	(2/)	2	32	379
Taiwan	(2/)	2	1	(2/)	--	(2/)	1	4	193
United Kingdom	139	62	40	107	(2/)	3	1	352	2,680
Other	39	24	4	42	2	16	71	198	1,870
Total	643	184	322	570	7	53	273	2,050	18,600
1999: January-August	6,040	2,750	1,550	4,970	116	552	2,610	18,600	XX
1998: January-August	3,880	2,710	1,830	6,430	74	757	2,230	17,900	XX

XX Not applicable.
1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 8
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
September 1999:		
Stainless and heat resisting steels	86	14
Alloy steels	100	(1/)
Superalloys	87	13
Copper-nickel alloys	99	1
Other nickel-base alloys	100	(1/)

1/ Less than 1/2 unit.

TABLE 9
NICKEL PRICES

Date	Cathode NY Dealer $/lb.	LME Cash $/t	LME Cash $/lb.	18/8 Stainless steel scrap Pittsburgh $/long ton(gw)
1999:				
Average for month of:				
August	2.938	6,448.690	2.925	635
September	3.164	7,028.409	3.188	690
October	3.338	7,321.190	3.321	716
Average for week ending:				
August 20	3.01-3.07	6,510.500	2.953	625-645
August 27	3.04-3.13	6,581.500	2.985	625-645
September 3	3.18-3.23	6,870.625	3.116	680-700
September 10	3.10-3.34	7,195.000	3.264	680-700
September 17	3.12-3.36	7,015.000	3.182	680-700
September 24	3.23-3.34	6,996.000	3.173	680-700
October 1	3.19-3.31	6,989.000	3.170	680-700
October 8	3.24-3.29	6,982.000	3.167	710-735
October 15	3.14-3.44	7,113.000	3.226	710-735
October 22	3.44-3.62	7,553.500	3.426	710-735
October 29	3.53-3.62	7,683.500	3.485	710-735
November 5	3.69-3.82	7,980.500	3.620	750-770
November 12	3.69-3.77	8,031.000	3.643	750-770

Source: Platt's Metals Week and American Metal Market.